UNIVERSITY OF SOUTH FLORIDA

The Academy for Teaching and Learning Excellence (ATLE)
"Office hours for faculty"
(813) 974-1841 | www.usf.edu/atle | atle@usf.edu | ALN 185

"ATLE's Top 10"
2015 Articles about Teaching and Learning

(in alphabetical order by author)

1. **Harrison, L. M. & Risler, L. (2015). The role consumerism plays in student learning. *Active Learning in Higher Education*, *16*(1), 67-76.**
   http://alh.sagepub.com/content/16/1/67.full.pdf+html

   a. **Published abstract:** In nations facing austerity measures, students risk diminished quality in their higher education experiences. Universities function increasingly like corporations as they struggle to compensate for budget shortfalls caused by declining public support. As a result, students become positioned as consumers of a private commodity that exists to facilitate their personal economic advantage. The purpose of this piece is to analyze the largely hidden role consumerism plays as an underlying contributor to the issue of diminished student learning in colleges and universities. This article will argue that educational quality is compromised when students are understood as customers to be placated rather than learners to be challenged. Drawing on research about how students learn, this work posits teaching and selling as inherently contradictory processes. Implications for higher education's future and support as a public good are discussed.

   b. **Why this is important:** Expanding beyond capacity, misallocation of resources and overspending got many universities in a vicious cycle of raising tuition to cover expenses and then increasing enrollment as justification for spending. This led some higher education institutions to fall into a consumer model and that reflected on both instructors and students. This article draws the attention of faculty and administrators to the negative impacts for increasing consumer mentality in higher education context. Treating students as customers and not learners who need to be routinely challenged and carefully assessed can have serious consequences on students learning. Undervaluing good teaching, trying to "buy" better evaluation by making courses unchallenging, grades more lenient, teaching to the test and flattering students more than correcting them are but some attributes of this consumer model. As a matter of fact, measures that are supposed to please students as "customers" actually diminish the real work of education and compromise student's learning.

2. **Kontra, C., Lyons, D., Fischer, S., & Beilock, S. (2015). Physical experience enhances science learning. *Psychological Science, 26*(6), 737-749.**
   http://pss.sagepub.com/content/early/2015/04/24/0956797615569355.abstract

   a. **Published abstract:** Three laboratory experiments involving students' behavior and brain imaging and one randomized field experiment in a college physics class explored the importance of physical experience in science learning. We reasoned that students' understanding of science concepts such as torque and angular momentum is aided by activation of sensorimotor brain systems that add kinetic detail and meaning to students' thinking. We tested whether physical experience with angular momentum increases involvement of sensorimotor brain systems during students' subsequent reasoning and whether this involvement aids their understanding. The physical experience, a brief exposure to forces associated with angular momentum, significantly improved quiz scores. Moreover, improved performance was explained by activation of sensorimotor brain regions when students later reasoned about angular momentum. This finding specifies a mechanism underlying the value of physical experience in science education and leads the way for classroom practices in which experience with the physical world is an integral part of learning.

b. **Why this is important:** Faculty should consider ways to add physical activity to their teaching when relevant, as it provides multiple neural pathways to the relevant learning and increases student reasoning and performance. As classes move online, consideration should be given for how students can still be encouraged to engage in the physical activity, despite the limitations caused by distance and the usual lack of synchronicity.

3. **Lawson, D., & Henderson, B. B. (2015). The costs of texting in the classroom. *College Teaching, 63*(3), 119-124. http://www.tandfonline.com/doi/full/10.1080/87567555.2015.1019826**

   a. **Published abstract:** Many college students seem to find it impossible to resist the temptation to text on electronic devices during class lectures and discussions. One common response of college professors is to yield to the inevitable and try to ignore student texting. However, research indicates that because of limited cognitive capacities, even simple texting can reduce comprehension of class material at a rate of 10–20%. We review that research and present our study of the effects of texting on comprehension. Proposed alternatives to ignoring texting or outright bans include using smartphones for classroom exercises, educating students about the dangers of multitasking, and the use of "technology breaks."

   b. **Why this is important:** Research related to this study can be used to inform the course policies faculty develop to help students succeed in class, but can also be used to help students understand how engaging with technology can compromise their ability to learn. Faculty would do well to provide students with evidence about how texting in class can jeopardize their success.

4. **McCallum, S., Schultz, J. Sellke, K. & Spartz. J. (2015). An Examination of the Flipped Classroom Approach on College Student Academic Involvement. *International Journal of Teaching and Learning in Higher Education*, *27*(1), 42-55.**
   http://www.isetl.org/ijtlhe/pdf/IJTLHE1880.pdf

   a. **Published abstract:** Colleges and universities remain attentive to developing and supporting ways to foster student academic success. These efforts have taken on more importance as student success, commonly measured by student learning achievement, has failed to meet expectations. For colleges and universities, the flipped classroom represents a student-centered method of fostering academic involvement that is recognized as a positive contributor to student success. This exploratory study examined the flipped classroom's influence on student academic, student peer-to-peer and student-faculty involvement. The study involved 60 undergraduate students (28 male, 32 female) from three flipped classrooms consisting of courses in mathematics and business. Focus group interviews were conducted to gather student feedback regarding their behaviors and classroom engagement. Additionally, a brief survey was administered to collect demographic information as well as quantitative data regarding student perceptions. Findings indicated student academic involvement was present through note taking, viewing video lectures, active in-class learning and collaboration. Students cited peer-to-peer and student-faculty engagement as essential to relationship building, peer learning, and meaningful involvement with faculty.

   b. **Why this is important:** Based on the premise that they need to cover content, many faculty argue that there is no time in class for active learning and engaging students. However, research shows that the amount of time and energy students spend on learning activities predict their success. Using engaging teaching strategies such as flipped classroom then becomes of a significant value, especially for technology-savvy, and video oriented Y- generation students. Students engage with course materials prior to class (through readings or lecture videos) leaving class time for real-life application, higher-order thinking activities, prompt feedback and more interaction with faculty and other peers. The latter also becomes more appealing as a good preparation for future workplace.

5. **Paff, L. A. (2015). Does grading encourage participation? Evidence and implications. *College Teaching, 63*(4), 135-145.**
   http://www.tandfonline.com/doi/full/10.1080/87567555.2015.1028021

   a. **Published abstract:** Research on the effects of grading on participation behavior is mixed. This study adds to the literature by analyzing the motivational effects of a policy that incorporates student self-assessment, flexible course weighting of the participation grade, and an expanded definition of participation. The results suggest that in some classes, more than half the students categorize themselves as limited- or non-participants, who respond marginally or not at all to participation grading. The findings indicate grading impacted the participation behavior of only 30% of the students surveyed, despite a large majority reporting that the policy was clear and fair. The study's implications and recommendations for policy and practice are provided.

   b. **Why this is important:** A common approach taken by faculty to encourage student engagement in their courses is to include a graded participation policy. This research suggests that even when students perceive that a participation policy is fair and clearly defined, they may not necessarily participate more than they are naturally predisposed to. These findings illuminate the need for faculty to identify creative ways to motivate students to participate in class and to create classroom environments that encourage student engagement.

6. **Reinhart, R., McClenahan, L., & Woodman, G. (2015). Visualizing trumps vision in training attention. *Psychological Science, 26*(7), 1114-1122.**
   http://pss.sagepub.com/content/early/2015/05/11/0956797615577619

   a. **Published abstract:** Mental imagery can have powerful training effects on behavior, but how this occurs is not well understood. Here we show that even a single instance of mental imagery can improve attentional selection of a target more effectively than actually practicing visual search. By recording subjects' brain activity, we found that these imagery-induced training effects were due to perceptual attention being more effectively focused on targets following imagined training. Next, we examined the downside of this potent training by changing the target after several trials of training attention with imagery and found that imagined search resulted in more potent interference than actual practice following these target changes. Finally, we found that proactive interference from task-irrelevant elements in the visual displays appears to underlie the superiority of imagined training relative to actual practice. Our findings demonstrate that visual attention mechanisms can be effectively trained to select target objects in the absence of visual input, and this results in more effective control of attention than practicing the task itself.

   b. **Why this is important:** Learning ultimately depends upon memory to some extent, so it is critical to understand techniques in teaching that improve student recall. This controlled study provides evidence that student learning is greater when objects and concepts are imagined, as opposed to being performed as a task—potentially offering myriad implications for lectures and the use of PowerPoint and related student activities within their seats. From the conclusion: "Imagery-based training appears to result in superior learning because it avoids interference from memories of task-irrelevant information during the actual performance of the task."

7. **Stephens, N., Townsend, S., Hamedani, M., Destin, M., & Manzo, V. (2015). A difference-education intervention equips first-generation college students to thrive in the face of stressful college situations. *Psychological Science, 26*(10), 1556-1566.**
http://pss.sagepub.com/content/early/2015/08/18/0956797615593501.abstract

    a. **Published abstract:** A growing social psychological literature reveals that brief interventions can benefit disadvantaged students. We tested a key component of the theoretical assumption that interventions exert long-term effects because they initiate recursive processes. Focusing on how interventions alter students' responses to specific situations over time, we conducted a follow-up lab study with students who had participated in a difference-education intervention 2 years earlier. In the intervention, students learned how their social-class backgrounds mattered in college. The follow-up study assessed participants' behavioral and hormonal responses to stressful college situations. We found that difference-education participants discussed their backgrounds in a speech more frequently than control participants did, an indication that they retained the understanding of how their backgrounds mattered. Moreover, among first-generation students (i.e., students whose parents did not have 4-year degrees), those in the difference-education condition showed greater physiological thriving (i.e., anabolic-balance reactivity) than those in the control condition, which suggests that they experienced their working-class backgrounds as a strength.

    b. **Why this is important:** Focusing student attention on their meta-situation brings positive benefits in most cases, and particular benefits to first-generation students. This is the first controlled laboratory study to demonstrate the long-term influence of the recursive processes that had been initiated by an intervention. Ultimately, individual faculty can imagine ways they can focus their own students on their own background, learning preferences, and the situations and contexts that have shaped them.

8. **Stough, L. M., Montague, M. L., Landmark, L. J. & Williams-Diehm, K. (2015). Persistent classroom management training needs of experienced teachers. *Journal of the Scholarship of Teaching and Learning, 15*(5), 36-48.**
http://josotl.indiana.edu/article/view/13784/26244

    a. **Published abstract:** Experienced special education teachers (n=62) were surveyed on their professional preparation to become effective classroom managers. Despite having received extensive preservice training, over 83% of the sample reported being underprepared in classroom management and behavioral interventions. No statistically significant difference was found with respect to the type of classroom management theoretical approach used to train these teachers. Of those (74.2%) who received classroom management training post-graduation, the majority (64%) reported needing still further training in dealing with student behavior. Specific training desired was in whole-class management strategies, as well as in managing behaviors of students with disabilities. Results suggest that teachers' training needs in classroom management may persist throughout their professional careers, even following intensive preservice training.

    b. **Why this is important:** One of the major challenges for faculty, especially novice ones, is managing classroom appropriately. Inappropriate management of students' behavioral problems may impede learning or even obstruct well-prepared teacher's attempt to teach effectively. This study emphasizes the need for continuous training for teachers (novice or experienced) in classroom management through faculty development opportunities.

9. **Swap, R. J. & Walter, J.A. (2015). An approach to engaging students in a large-enrollment, introductory STEM college course*. Journal of the Scholarship of Teaching and Learning, 15*(5), 1-21. http://josotl.indiana.edu/article/view/18910/26247**

    a. **Published abstract:** While it is clear that engagement between students and instructors positively affects learning outcomes, a number of factors make such engagement difficult to achieve in large-enrollment introductory courses. This has led to pessimism among some education professionals regarding the degree of engagement possible in these courses. In this paper we challenge this pessimistic outlook through a case study involving a large-enrollment introductory, general education, STEM college course. Several pedagogical approaches related to social constructivist theory offer possibilities for increasing student engagement in the learning process, but they may be difficult to implement, particularly in environments yielding little or no reward for classroom innovation. Here, we present an approach to developing an engaging learning environment by hybridizing aspects from a range of pedagogical approaches varying from the didactic (e.g. traditional lecture) to the more constructivist (e.g. peer instruction, project-based learning). We describe the course in question and our pedagogical approach, provide evidence for its effectiveness, and discuss contextual factors affecting the development of our approach and its adoption to other subjects and institutions. We also discuss important remaining challenges regarding the adoption of our approach and similar practices.

    b. **Why this is important**: Research shows that active learning and engaging students have positive influence on educational outcomes, students' satisfaction as well as ancillary skills necessary for successful collaboration. However, there is a common paradigm that students' engagement might be challenging when it comes to large-enrollment introductory college courses. This article disputes this paradigm as it presents a successful hybrid model (with five key features) for engaging students in such context. This approach is unique in that it starts with traditional lecture style at beginning of semester and transitionally moves towards student-center/flipped classroom/facilitator style. This approach is more attractive and easier to implement or experiment with compared to adopting sudden transformation into new pedagogical methods.

10. **Tews, M. J., Jackson, K., Ramsay, C., & Michel, J. W. (2015). Fun in the college classroom: Examining its nature and relationship with student engagement. *College Teaching, 63*(1), 16-26. http://www.tandfonline.com/doi/full/10.1080/87567555.2014.972318**

    a. **Published abstract:** Despite the popular belief that fun has a positive impact in learning contexts, empirical research on fun in the classroom has been limited. To extend research in this area, the goal of this study was to develop and validate a new scale to assess fun in the classroom and examine its relationship with student engagement. The multi-stage scale development effort resulted in a two-dimensional measure, *including fun activities and fun delivery.* Fun activities reflect a variety of hands-on exercises and ways to promote social involvement among students. Fun delivery is more instructor-focused, including the use of humor, creative examples, and storytelling. Interestingly, fun delivery, but not fun activities, was positively related to student engagement. These findings suggest that not all fun is equal and highlight the need for additional research to validate the impact of fun on meaningful student outcomes.

    b. **Why this is important:** The results of this study not only offer insight into the specific activities and behaviors that can be classified as fun, but also suggest that simply engaging students in fun activities may not be enough to increase their engagement. This research may help guide faculty as they consider how to motivate students to participate in class and thus have a more meaningful classroom experience.

Bonus: The 10 Best Blog Entries of 2015

1. "How to get into the 'Flow' in Your Classroom"
Steps you can take to work towards achieving the optimal level of engagement in your classroom.
http://www.edudemic.com/go-flow-classroom/

2. "Back to the Future of Higher Ed"
2015 may be a year of refining "older" educational technologies and trends.
http://www.wired.com/insights/2015/02/back-to-the-future-of-higher-ed/

3. "The 4 Properties of Powerful Teachers"
What are the hallmarks of great teaching?
http://chronicle.com/article/The-4-Properties-of-Powerful/228483/

4. "The 3 Essential Functions of Your Syllabus, Parts 1 & 2"
A two-part series discussing the role the syllabus plays in a course, the author explores how to create a "learning syllabus" and how to get students to read and use it.
Part 1: http://chronicle.com/article/The-3-Essential-Functions-of/190243/
Part 2: http://chronicle.com/article/The-3-Essential-Functions-of/228909

5. "How to Teach in an Age of Distraction"
Sherry Turkle offers strategies and thoughts about the struggle over student attention.
http://chronicle.com/article/How-to-Teach-in-an-Age-of/233515

6. "Why Students Don't Attend Office Hours"
Some possible answers to a question that plagues many instructors. Be sure to check the comment section for strategies that other instructors have found successful!
http://www.facultyfocus.com/articles/teaching-professor-blog/students-dont-attend-office-hours/

7. "In Defense of Continuous Exposition by the Teacher"
"According to the research, if your understanding of "lecture" involves engaging students in discussion and interaction during class, then you should keep lecturing. It's "continuous exposition by the teacher" that's the problem."
http://derekbruff.org/?p=3126

8. "How to Avoid Being a Helicopter Professor"
Ensuing that the instructor is truly the "guide on the side" when students are given more freedom and control.
http://www.facultyfocus.com/articles/teaching-careers/how-to-avoid-being-a-helicopter-professor/

9. "Trying Team-Based Inquiry to Teach Research Skills in the Humanities"
By collaborating, students are able to more easily handle their first journey through the research process
https://www.insidehighered.com/blogs/gradhacker/trying-team-based-inquiry-teach-research-skills-humanities

10. "Teaching Science So it Sticks"
The University of Oregon and other institutions are aiming to make introductory science courses engaging through the use of a variety of active learning strategies and course re-designs.
http://chronicle.com/article/Teaching-Science-So-It-Sticks/229881/

Bonus: The 5 Best (Education-related) TED Talks of 2015

1. "The Art of First Impressions – In Design and Life" (18:57)
TED Description: Book designer Chip Kidd knows all too well how often we judge things by first appearances. In this hilarious, fast-paced talk, he explains the two techniques designers use to communicate instantly — clarity and mystery — and when, why and how they work. He celebrates beautiful, useful pieces of design, skewers less successful work, and shares the thinking behind some of his own iconic book covers.
https://www.ted.com/talks/chip_kidd_the_art_of_first_impressions_in_design_and_life

2. "Why Some of Us Don't Have One True Calling" (12:26)
TED Description: What do you want to be when you grow up? Well, if you're not sure you want to do just one thing for the rest of your life, you're not alone. In this illuminating talk, writer and artist Emilie Wapnick describes the kind of people she calls "multipotentialites" — who have a range of interests and jobs over one lifetime. Are you one?
https://www.ted.com/talks/emilie_wapnick_why_some_of_us_don_t_have_one_true_calling

3. "A Visual History of Human Knowledge" (12:49)
TED Description: How does knowledge grow? Sometimes it begins with one insight and grows into many branches; other times it grows as a complex and interconnected network. Infographics expert Manuel Lima explores the thousand-year history of mapping data — from languages to dynasties — using trees and networks of information. It's a fascinating history of visualizations, and a look into humanity's urge to map what we know.
https://www.ted.com/talks/manuel_lima_a_visual_history_of_human_knowledge

4. "You Can Grow New Brain Cells. Here's How" (11:04)
TED Description: Can we, as adults, grow new neurons? Neuroscientist Sandrine Thuret says that we can, and she offers research and practical advice on how we can help our brains better perform neurogenesis—improving mood, increasing memory formation and preventing the decline associated with aging along the way.
https://www.ted.com/talks/sandrine_thuret_you_can_grow_new_brain_cells_here_s_how#t-485986

5. "The Moral Bias Behind Your Search Results" (9:18)
TED Description: Search engines have become our most trusted sources of information and arbiters of truth. But can we ever get an unbiased search result? Swedish author and journalist Andreas Ekström argues that such a thing is a philosophical impossibility. In this thoughtful talk, he calls on us to strengthen the bonds between technology and the humanities, and he reminds us that behind every algorithm is a set of personal beliefs that no code can ever completely eradicate.
https://www.ted.com/talks/andreas_ekstrom_the_moral_bias_behind_your_search_results